

## Claims

- [c1] 1.A method of producing an antioxidant composition, comprising the steps of:
- (a)macerating tissue from plants of the genus *Allium* and incubating the tissue at a temperature less than about 30°C;
  - (b)neutralizing the macerated tissue with an alkaline hydroxide or an alkali-earth hydroxide;
  - (c)drying the tissue;
  - (d)grinding the tissue;
  - (e)extracting the tissue with ethanol; and
  - (f)evaporating the ethanol to recover a solid residue comprising pyruvate.
- [c2] 2.The method of claim 1 wherein the macerated tissue is incubated at a temperature less than about 25°C for about 5 minutes or longer.
- [c3] 3.The method of claim 2 wherein the macerated tissue is incubated at about 4°C for about 30 minutes.
- [c4] 4.The method of claim 1 wherein the macerated tissue is neutralized with sodium hydroxide or calcium hydroxide.

- [c5] 5.The method of claim 1 wherein the tissue is extracted with 95% ethanol (v:v)
- 6.The method of claim 1 wherein the dried tissue is de-fatted with hexane and residual hexane evaporated before grinding.
- [c6] 7.The method of claim 1 wherein the plant is selected from the group consisting of *Allium cepa* and *Allium sativum*
- 8.The method of claim 7 wherein the plant is *Allium cepa*
- [c7] 9.A pyruvate-enriched plant extract as prepared by a method of claim 1.
- [c8] 10.A plant extract derived from tissue from plants of the genus *Allium* wherein said extract is enriched in pyruvic acid by at least 100%.
- [c9] 11.The plant extract of claim 10 further comprising quercetin and kaempferol.
- [c10] 12.The plant extract of claim 10 wherein the plant is selected from the group consisting of *Allium cepa* and *Allium sativum*
- 13.The extract of claim 12 wherein the plant is *Allium cepa*